Goal 3: Land Preservation and Restoration

Preserve and restore the land by using innovative waste management practices and cleaning up contaminated properties to reduce risks posed by releases of harmful substances.

Objective 3.1 Preserve Land

Sub-objective 3.1.1 Reduce Waste Generation and Increase Recycling

A) Current Conditions:

Region 8 supports projects that demonstrate the reduction of municipal solid waste and enhance the infrastructure for municipal solid waste recycling. Current projects demonstrate the use of crumb rubber in road paving applications, food waste composting, material exchange to extend the life of used electronic equipment, construction debris recycling, zero waste for hospitals and special events and business assistance to recycling entrepreneurs. "Safe waste management" has been primarily focused within Indian Country, as Region 8 programs have concentrated on addressing basic waste and water needs. One example of an effort to address the current conditions is the work the Region is doing on the Tribal Integrated Waste Management Systems (TIWMS), identified in the Region's Revitalization Workplan for 2004.

B) Regional Trends/Challenges:

State environmental departments in Region 8 generally do not have recycling coordinators and most do not provide money to support the development of waste reduction and recycling programs. As funding from EPA declines, it becomes more difficult to develop, support or even conduct projects waste reduction, reuse and recycling projects. Landfill tipping fees are relatively low compared to other areas of the country and therefore generally do not provide a sufficient incentive to divert waste from disposal in landfills. Many areas in the Region are rural and these smaller communities often don't generate enough material to make a recycling program cost-effective. Similarly, the costs of transporting recyclable materials to markets both within and outside the Region are often prohibitive. Many of these same constraints apply to Indian Country within Region 8, due to large land areas that are far from the recycling markets.

C) Regional Strategies/Approaches/Tools:

Local government agencies and non-profit organizations are proactive in solid waste reduction and recycling. The Region continues to leverage partnerships with these groups to demonstrate the value of waste reduction and recycling and the value of local and regional partnerships aimed at overcoming the economic challenges of recycling and developing markets for recycled materials in sparsely populated areas. Composting is emerging as a feasible waste management approach for many rural communities and we anticipate increasing outreach in this area. Region 8 uses grants for demonstration projects, program development and coordination, technical assistance and partnerships. Region 8 also promotes achievement of this Sub-objective through core programs in waste management and pollution prevention and through active participation in the Resource Conservation Challenge (RCC). The Region is actively involved in six of the major

focus areas (or clusters) in the national RCC effort, including: targeted chemical reduction, construction and demolition waste, electronics, tires, hospitals and green buildings. In addition, we are forming a RCC Steering Committee that will document, recognize and promote efforts to fulfill national RCC goals within a well-defined communications structure. Its aim is to plan and implement activities across Region 8 programs and in collaboration with stakeholders and partners. Most funding for solid waste management on Indian lands has been directed toward cleanup of open dumps and creating waste management systems.

D) Primary Measures of Progress:

Both tribes and states are working to increase the number of projects funded, the amount of funding we are able to leverage from other partners, the amount of waste diverted from landfills, cost savings, number of jobs created and the ability of programs to become self-sustaining. Where data are available, the ultimate expression of the success of these activities can be measured in terms of the pounds of pollutants reduced, gallons of water saved, BTUs of energy conserved and dollars saved by reducing waste generation and increasing recycling.

Sub-objective 3.1.2: Manage Hazardous Waste and Petroleum Products Properly

RCRA Safe Waste Management

A) Current Conditions:

In Region 8, approved controls (permits or other enforceable instruments) for the management of hazardous waste have been put in place for all units at 80 percent of the 96 Treatment, Storage and Disposal Facilities (TSDFs) in the universe of operating and post-closure TSDFs. This current status achieves the 2005 program goal (80 percent) two years ahead of time, but continued progress is needed to meet a 2008 goal that will likely be about 95-98 percent. Tribal needs within Region 8 for solid and hazardous waste management far exceed current funding levels.

B) Regional Trends/Challenges:

In Region 8, the states are the primary implementers of the RCRA program and they issue most of the permits required for operating and post-closure TSDFs. Progress toward the national goal has been steady, with the notable exception of operating Subpart X Open Burning/Open Detonation units. Progress at these units has been slow due partly to the requirement for air pathway risk analysis for the units. Progress has also been slow with post-closure facilities, where ground-water monitoring issues have delayed the issuance of some permits. Because tribal needs exceed resources, the challenge is to close existing open dumps while at the same time preventing new ones.

C) Regional Strategies/Approaches/Tools:

Region 8 and the states use several tools and methods to plan, promote and track progress towards program goals. The chief tools are a multi-year strategic work plan that addresses the facilities and units in the Permits Baseline Universe; custom-designed database reports; and the annual Performance Partnership Agreements (PPA) with the states. Each year, starting about

mid-year, we review the multi-year work plan, begin planning the next year's activities and review out-year projections. The Region 8 Solid & Hazardous Waste program is working with tribes to establish Integrated Solid Waste Management Plans with sustainable programs to fund the necessary infrastructure.

D) Primary Measures of Progress:

Progress of key hazardous waste program activities is measured with the RCRAInfo database. The states maintain these data directly. EPA has designed a number of reports that clearly track and demonstrate the status of hazardous waste permits and progress toward the national goal. At present, no federal databases track solid waste management in the Region's states or tribes. The Region 8 Solid & Hazardous Waste program is working with the Brownfields program to create a database to track solid and hazardous wastes within Indian Country.

Underground Storage Tanks (UST)/Leaking Underground Storage Tanks (LUST)
A) Current Conditions:

State Programs: Four states have received program approval from EPA to implement and enforce the UST program using their state authorities, which have been deemed to be as stringent as Federal authorities. Two states (Colorado and Wyoming) implement the program under MOAs with EPA. The state UST program in the Region consists of: 23,427 active tanks and 66,051 closed tanks; 17,936 confirmed releases, 15,655 cleanups initiated, 12,928 cleanups completed; a 5,008 cleanup backlog; 171 emergency responses. Currently, 90 percent of UST facilities are in significant operational compliance with release prevention and 80 percent are in significant operational compliance with leak detection regulations. The Region 8 UST program also administers funds for the Leaking Underground Storage Tank (LUST) program for states and tribes. States implement the LUST program under cooperative agreements with EPA. The states are proactive in expediting cleanups and re-utilizing of UST land areas. The tools used by some states in the region to expedite cleanups include: 1) development of standardized reporting requirements for responsible parties, which has expedited state staff review; 2) inspecting all closures which has expedited the issuance of "No Further Action" (NFA) determinations; and 3) expediting closure strategies at long term monitoring sites by establishing plume stability through statistics and modeling. Utah, South Dakota, Colorado and Montana have had success by utilizing Risk Based Corrective Action (RBCA) to expedite cleanups of low risk sites which has allowed them to focus greater efforts on high risk more complicated sites.

Tribal: Totals for Indian Country include: 577 active tanks; 1991 closed tanks; 461 confirmed releases; 407 cleanups initiated; 226 cleanups completed; 235 cleanup backlog; and 5 emergency responses. Currently, 70 percent of facilities are in significant operational compliance with release prevention and 79 percent are in significant operational compliance with leak detection regulations. The challenge for the Regional DI program in Indian Country is to keep the owners/operators informed on maintaining their underground storage tank system. The inspection field season is an opportunity to provide assistance on requirements under the federal UST regulations. The facilities are on an inspection schedule of every three years. At this time, the

Standing Rock Tribe is implementing a Direct Implementation Tribal Cooperative Agreement (DITCA). This authority is intended to provide tribes and EPA with an additional approach to develop staff capacity to manage environmental programs. This approach supplements the original "treatment in a manner similar to states" process of involving tribes and providing flexibility. The Oglala Sioux Tribe and the Three Affiliated Tribes are also considering DITCAs at this time.

Another innovative program is the UST Fields program, which is a grant for the cleanup of contaminated sites. The Crow Tribe in Montana is participating in this program to remediate land to be reused. EPA Region 8, in concert with the Revitalization Initiative, will work in Indian Country under our direct implementation responsibilities. We will apply Ready-for-Reuse (RfR) determinations at property clean ups, as deemed appropriate.

B) Regional Trends/Challenges:

Cleanup Challenges: Although most states indicate that they will be able to achieve the cleanup goals presented by the Office of Underground Storage Tanks (OUST), barriers to maintaining or increasing cleanup rates include: 1) long term monitoring requirements/policies, which preclude no further action status under OUST's current definitions; 2) flat or reduced state resources; and 3) more complex cleanups, requiring longer cleanup periods.

Compliance Challenges: Small businesses often do not have the resources or do not choose to focus their resources on environmental issues. Additionally, many small businesses have problems maintaining a cash flow and as a result, they are closing their businesses and leaving their tanks in the ground. Even when a business closes, it is required to maintain the testing requirements for tanks. Many facility owners often experience high employee turnover, which can result in non-compliance due to lack of knowledge, expertise and training. Concern exists regarding the indeterminate nature of the third-party certification process for approving other leak detection methods – in particular, the Statistical Inventory Reconciliation (SIR) method.

C) Regional Strategies/Approaches/Tools:

EPA Region 8 and our states will continue to improve the compliance rate in the UST program. Specifically, the Region will increase UST facilities in significant operations compliance with release detection and release prevention requirements. Montana uses contractors for third-party inspections and Utah provides funding to local health departments to do its inspections. Colorado has provided Cathodic Protection tester training for their inspectors, as well as release investigation training. North Dakota has refocused their field efforts from closure inspections to leak detection inspections and plans to re-inspect all facilities every three years – a major increase over past compliance efforts.

The Region's LUST program will reduce the number and degree of confirmed releases through better tank management, improved equipment and early detection. Additionally, the Region will reduce the cleanup backlog (as of FY02) by 50 percent in 5 years (by FY07).

Region 8 will continue to assist the Wyoming Department of Environmental Quality in achieving cleanup goals and will use the Minimum Site Assessment (MSA) process to identify sites that can be closed by reviewing documentation. The MSA program will end in FY2004 and Wyoming is not certain whether it will be extended.

The Region will also continue to assist the tribes to improve their UST programs, encourage use of DITCA process, as well as application for UST Fields grants.

D) Primary Measures of Progress:

UST Measures
- Total number of petroleum UST systems regulated under Subtitle I (active & closed)
- Number of permanently closed petroleum UST systems regulated under Subtitle I
- Total number of hazardous substance UST systems (active & closed)
- Number of UST systems in operational compliance with release detection requirements
- Number of UST systems in operational compliance with release prevention requirements
- Number of UST systems in operational compliance with both release detection and release prevention requirements.

LUST Measures
- Number of confirmed releases
- Number of cleanups initiated (responsible party lead and/or state lead with state money)
- Number of cleanups initiated (state lead with Trust Fund (LUST) money)
- Number of cleanups completed (responsible party lead and/or state lead with state money)
- Number of cleanups completed (state lead with TF money)
- Number of emergency responses.

Objective 3.2: Restore Land

Sub-objective 3.2.1 Prepare and Respond to Accidental and Intentional Releases

A) Current Conditions:

EPA Region 8 plays a major role in efforts to respond to releases of hazardous substances and oil and to strengthen the Agency's ability to respond to future events through emergency preparedness. The Region hired all five of the counter-terrorism FTEs (full-time equivalents) allocated by EPA Headquarters and now has 17 experienced On-Scene Coordinators (OSCs) who are fully trained to respond to a wide range of emergencies including those involving weapons of mass destruction. Another three OSCs are at the junior level and are being rapidly trained. EPA uses authorities under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA, or Superfund), the Oil Pollution Act of 1990 and the Stafford Act to protect against and respond to spills and releases of hazardous materials. On average, the Region receives 900 to 1,100 Incident Notification calls through the National Response Center annually and responds by sending an OSC to a spill approximately 25 to 30 times per year. When an incident

occurs, the OSC coordinates with those in national, regional and area response systems to ensure that all necessary resources are available and that containment, cleanup and disposal activities proceed quickly, efficiently and effectively.

EPA uses an approach that integrates prevention, preparedness and response activities to minimize risks associated with accidental or intentional releases. Region 8 is actively establishing partnerships with local, state and other federal response organizations to ensure effective coordination of activities during a multi-jurisdictional incident. The Region has two Senior Environmental Employee enrollees who regularly attend Local Emergency Planning Committee (LEPC) and State Emergency Response Commission (SERC) meetings throughout the six Region 8 states. The Region actively participates in the Colorado and Utah Counter-Terrorism Advisory Councils (interagency boards designed to share information regarding potential threats, resources available for response and response authorities) and was instrumental in establishing a similar organization in Wyoming. As requested by states to develop a coordinated response plan for high-priority geographic areas, seven sub-Area Contingency Plans (ACPs) have been completed. Work continues, including annual updates for the completed ACPs and developing two additional ACPs.

An important component of the Region's current work is preventing oil spills from reaching our nation's waters. Under the Clean Water Act, as amended by the Oil Pollution Act, the Agency requires certain facilities to develop and implement spill prevention, control and countermeasure (SPCC) plans. SPCC plans ensure that facilities put in place containment and other countermeasures that would prevent oil spills from reaching navigable waters. Facilities that are unable to provide secondary containment, such as berms around an oil storage tank, must provide a spill contingency plan as part of their SPCC plan that details cleanup measures to be taken if a spill occurs. The Region performs approximately 50 SPCC inspections annually.

Because of the rural character of the Region, an additional concern is the potential for bio- or agro-terrorism activities intended to disrupt the nation's food supply. Region 8 will work with government agencies, agricultural businesses and producer groups, as appropriate, to promote implementation of adequate security measures at agricultural chemical dealers, food processors and crop storage facilities and to encourage reporting of unusual livestock disease outbreaks or crop conditions to proper authorities.

On a national level, the removal program has developed the Core Emergency Response (ER) program to establish criteria for each regional ER program. The goal of Core ER is to enhance EPA's emergency response program to respond quickly and effectively to chemical, biological and radiological incidents or releases and improve coordination mechanisms to enable response to large-scale national emergencies, including homeland security incidents. The primary aspects of Core ER include: Regional Response Teams and coordination among regions; health and safety issues, including identification, clothing, training and exercise; establishment of delegation and warrant authorities; and response readiness, including equipment, transportation and outreach. In 2002, Region 8 scored 824 points out of a possible 1,000 on its annual Core ER Evaluation. Our

goal is to score in excess of 900 points.

B) Regional Trends/Challenges:

The Region is placing increased emphasis on advanced level training for OSCs to improve the ability to respond to large, multi-agency incidents possibly involving weapons of mass destruction. Training in the areas of incident command, technical aspects of response to chemical, biological or radiological agents and health and safety will be emphasized. While Region 8 has consistently met response-related program targets, including enforcement targets for responsible party conduct of work, it may be difficult to continue to do so given the increased training demand on the OSCs.

Another trend is increased participation in national incidents and national workgroups. Region 8 OSCs participated in the World Trade Center and Capitol Hill anthrax responses, were heavily involved in the Texas Space Shuttle Response, as well as the Top Officials 2 (TOPOFF2) exercise in Seattle and Chicago. Other national efforts include leading a workgroup to revamp the medical monitoring program for OSCs and ensuring national consistency and improved CT response capability for the next generation of Superfund Technical Assessment and Response Team (START) contracts. In the area of Core ER we are actively working on improving our back-up system with Regions 9 and 10. A critical piece is ensuring that the primary emergency response contracting vehicles, the START and Emergency and Rapid Response Services (ERRS) contracts, are "portable" and can be used across regions. Additionally, cross-regional training and exercises will be emphasized. The Region built a state-of-the-art Regional Response Center (RRC) which is fully operational. The Region will continue to acquire, to the extent that funding is available, equipment from the National CT/Response Equipment Priority list including a mobile command post and mobile RRC. Other goals are to more fully equip EPA's Golden, Colorado, Laboratory to act as alternate RRC in the event that response equipment currently located in downtown Denver is not available.

A continuing challenge for the program is the diminishing Superfund pipeline budget. Pipeline monies support a wide range of program activities for preparedness and response. Site related needs on a yearly basis are uncertain and a contingency needs to be held back to support sites that present an imminent health risk. At the same time, funding for OSC training and exercises, equipment purchases, maintenance of ER equipment and development of improved Standard Operating Procedures (SOPs) for CT must in part be funded from pipeline (in the absence of sufficient supplemental CT-specific funding). Similar funding issues in the oil program affect the ability to develop new area contingency plans.

Another challenge is EPA's role in national responses with the establishment of the Department of homeland security and associated demands and requirements that may come out of the new department. The Region will continue to be engaged at the national level to clarify this role while maintaining and enhancing its current response capabilities.

C) Regional Strategies/Approaches/Tools:

EPA Region 8 will continue to use its response authorities under the National Contingency Plan to respond to releases of hazardous substances and oil. In addition, the Region will review response data provided in the "after-action" reports following a release or exercise and examine "lessons learned" reports to identify which activities work and which need to be improved. As resources allow, the Region will support state spill response efforts at the local level and will help expedite Oil Pollution Act reimbursement requests.

The Region will work to improve internal and external coordination and communication mechanisms. For example, as part of the Regional Incident Coordination Team (RICT), the Region will continue to improve its policies, plans, procedures and decision-making processes for coordinating response to large-scale emergencies. We are also formalizing a Regional Support Corp to provide Region-wide assistance to the OSCs in the event that the national response system is overwhelmed. The Region will continue to participate in multi-agency meetings and task forces to improve external communication and coordination issues including ongoing coordination with the Office of Homeland Security. As a major outreach effort to improve the ability to protect people in the event of a terrorist act, the Region is working collaboratively with Denver and Salt Lake City (the Region's two major population centers) on developing timely notification systems to downtown buildings so that they may immediately turn off air intake systems.

D) Primary Measures of Progress:

The Region uses Appendix D of the Superfund/Oil program Implementation Manual (SPIM) to measure progress toward the Agency's cleanup objectives. The Region will also measure improvements through the annual Core ER evaluation process.

Sub-objective 3.2.2: Cleanup and Reuse of Contaminated Land

Superfund Remedial

A) Current Conditions:

Region 8 has 58 non-federal facility sites either proposed or final on the National Priorities List (NPL). Of those, 20 are classified as construction complete and are in the post-construction, long-term monitoring phase. The Government Performance and Results Act (GPRA) environmental indicator at the 58 non-Federal Facility sites for "Human Exposure Under Control" is currently 64 percent are under control, 24 percent are not under control and 12 percent do not have sufficient data to make a determination. For "Groundwater Migration Under Control," 52 percent are under control, 24 percent are not under control and 24 percent do not have sufficient data to make a determination. Each year the Region adds approximately one to three sites to the National Priorities List. The Region also typically completes construction and deletes one to three sites from the NPL each year.

B) Regional Trends/Challenges:

Region 8 is differentiated from other regions by the type of industrial activities leading to contaminated land. A high percentage of sites in Region 8 on the NPL are the result of our mining heritage. Mining activities in the mountain states created vast piles of mining waste with releases of acid rock drainage to groundwater and surface water. The processing and smelting of ore resulted in large areas being contaminated with high levels of heavy metals, primarily lead and arsenic. Many of the areas are now residential developments and some are impacting tribal lands.

New mining sites continue to be added to the NPL through the abandonment of mining operations. In the past few years, cash flow problems led mining companies to abandon active, permitted operations at Summitville and Gilt Edge, creating emergencies that EPA responded to producing long-term problems for remediation. New sites due to historic mining operations continue to be discovered. For example, two new, large sites with actual health effects on the local population were recently discovered in Libby, Montana and Eureka, Utah. The large-scale Vasquez Boulevard – I-70 site in Denver was also recently identified.

New sites will continue to come to Superfund because no other program has the authority and resources to respond to large, expensive cleanups. Response costs for many of these sites fall on EPA as responsible parties are bankrupt or are no longer in existence, placing tremendous pressure on our budget.

Redevelopment or reuse of Superfund sites in Region 8 is a high priority. Whenever possible, the Region works with the community, property owner, responsible parties and potential developers to make the remedy compatible with the future land use. An example of this type of effort is the Murray Smelter site in Murray, Utah. As a result of this collaborative effort, an old smelter site which contributed little to the local tax base will become a nearly $400 million medical center with light rail access. The parking area for the light rail and a new arterial street through the site are part of the cap for the smelter waste repository. This type of collaborative effort saved the responsible party money, accelerated the cleanup and will return the site to productive use in a short period of time.

C) Regional Strategies/Approaches/Tools:

Region 8 focuses on careful planning and prioritization of site expenditures. This strategy allows the most serious human health risks to be addressed, but will delay the cleanup of sites or portions of sites with ecological risk. State partners are actively engaged in the planning and prioritization process as well as in the implementation of the remedy. Strong emphasis is placed on paying attention to construction cost management, seeking responsible parties and using special accounts to leverage program resources. Emphasis in Region 8 will continue to be to move sites forward quickly and cost effectively within available resources.

The Region will continue to promote the integration of remedy selection and implementation and site reuse through working with state, tribal and local authorities, responsible parties and landowners. The Region has held two workshops with the lending and real estate communities to

promote the benefits and dispel the myths of redevelopment of Superfund sites.

The Region is developing a number of software applications to track post-construction activities and is using internet-based tools to help promote the reuse of Superfund sites, including the development of data bases and Geographic Information Systems (GIS), starting with the City and County of Denver pilot. These tools will be used where appropriate throughout the Region as time and resources allow. The result is determining the best location possibilities for Ready for Reuse land revitalization determinations.

D) Primary Measures of Progress:

Region 8 uses the national program measures described in the *Superfund/Oil Program Implementation Manual (SPIM)* to measure program progress. Remedial Project Managers have access to a variety of project management software applications to allow them to manage and budget site activities.

RCRA Corrective Action

A) Current Conditions:

Region 8 has 55 facilities on its Corrective Action GPRA (Government Performance Results Act) Baseline. The environmental indicator status for "Human Health Exposure Under Control" is currently 78 percent versus a goal of 65 percent for FY03. "Groundwater Migration Under Control" is currently being met at 76 percent of facilities; the goal for FY03 is 50 percent. No Treatment, Storage and Disposal Facilities are located on Region 8 tribal lands, nonetheless, there are many contaminated parcels that need cleanup.

B) Regional Trends/Challenges:

Region 8 has consistently exceeded GPRA goals. Region 8 states and the Region have made remarkable early progress on achieving the FY2005 goals; however, much work at some of the most difficult facilities remains to be done. The primary challenges include: facilities with complex hydro-geologic settings or other factors which extend the typical schedule for investigation and mitigation of groundwater contamination; completion of human health and/or risk assessments; and some federal facilities with budget constraints. Although not part of the Corrective Action GPRA Baseline, some contaminated parcels in Indian Country are small, simple dumps that can be easily cleaned, while others will require complex cleanup plans. Examples include mine scarring, open dumps, petroleum impacts and hazardous generator releases.

It can be difficult to make rapid progress under RCRA corrective action and, at times, to achieve national RCRA Government Performance Results Act (GPRA) Environmental Indicators at various facilities, including petroleum refineries. Refineries in the Region typically require corrective action due to past releases of contaminants to the environment. The corrective action issues at refineries can be complex and highly resource intensive (especially corrective action which may take decades to complete and may affect nearby communities, including environmental justice communities).

C) Regional Strategies/Approaches/Tools:

Region 8 uses a Corrective Action Baseline Status Report and Strategy document to track Environmental Indicator progress at baseline facilities, project accomplishment targets, and monitor progress and strategies for accomplishing goals. We engage state partners formally at mid-year and end-of-year meetings to confirm targets and to identify and address issues and concerns, and informally, at periodic meetings throughout the year. In the future, we will use the same strategies to monitor progress in Remedy Selection and Final Remedy determinations. With respect to environmental indicators, the Region is working with EPA Headquarters to identify new approaches to expedite the achievement of environmental indicators. One such approach is to identify the parties liable for cleanup and then work with those parties to ensure achievement of the indicators by 2005. The Corrective Action program recently designated an "Environmental Indicator Coordinator" and this individual will work with the Region 8 states and tribes to develop facility-specific strategies for meeting indicators by 2005. In order to address the highest priority sites in Indian Country, we will leverage resources from other federal agencies and several EPA programs including Solid & Hazardous Waste, Brownfields and UST/LUST.

As a part of the Region's Revitalization Initiative, the RCRA Brownfields workgroup and the RCRA Corrective Action program are specifically identifying sites that could be cleaned up under innovative approaches. One example includes the Fruita Refinery, where the State of Colorado (with EPA's support) has found success in addressing a much needed community land revitalization clean up along the Colorado River.

D) Primary Measures of Progress:

The Region's primary measures of progress include, the RCRAInfo database, Headquarters Management RCRAInfo Reports and Region 8 RCRAInfo Detailed Management Reports. We are developing a database for Indian Country that includes hazardous and solid waste inventories, priorities, cleanups and land reuse.

Federal Facilities [NPL, non-NPL], BRAC and FUD sites

A) Current Conditions:

None of Region 8's ten federal facility sites will be cleaned to unrestrictive use, as contamination exceeding residential risk levels will be left in place. Three sites have achieved construction completion and the remaining seven will achieve this milestone by the end of the decade. Four of the Region's five Base Realignment and Closure (BRAC) sites have transferred more than 50 percent of the closed property to redevelopment authorities. Three closure sites (Rocky Mountain Arsenal, Rocky Flats and Pueblo Army Depot) will be converted to wildlife refuges once closure and cleanup of the site are completed. These types of activities are clear examples of how the Federal Facilities Superfund programs are key elements in the Region's Revitalization Initiative. Deletion from the NPL is the ultimate goal for the federal NPL sites. One site, Monticello Vicinity Properties, a Department of Energy (DOE) site in Utah, has been completely deleted from the NPL. Partial deletions from the NPL have also occurred at Rocky Mountain Arsenal and the Monticello Millsite.

B) Regional Trends/Challenges:

After several years of missing milestones, most federal NPL and BRAC sites are now able to meet their annually scheduled targets. Funding, public concerns and conflicts with the regulators are still the primary reasons that sites are delayed. These delays are fewer in number today compared to several years ago, increasing the likelihood of achieving construction completion for NPL and BRAC sites by the end of the decade. Two new contaminates of concern are unexploded ordnance and perchlorate. The outcome of pending legislation, which will determine whether these two contaminants are regulated by EPA, could also affect cleanup schedules. Overarching these concerns, is the possible impact the war on terrorism will have on cleanup budgets at Department of Defense (DOD) sites.

C) Regional Strategies/Approaches/Tools:

The Federal Facilities program is working with DOD to inventory formerly used defense (FUD) sites, as well as sites where perchlorate and unexploded ordinance may have been released to the environment. At Rocky Flats, the Region, the State of Colorado and DOE have agreed to use "earned value" [dollar value of project] as a measure of progress toward cleanup, and after two years, this approach has been working well. To link the Federal Facilities program to the Revitalization Initiative, the Region will evaluate if there is an opportunity for more effective use of FOSL's (finding of suitability to lease) and FOST's (findings of suitability to transfer), which are similar to a Ready for Reuse determination.

D) Primary Measures of Progress:

The Region uses Appendix D of the *Superfund/Oil Program Implementation Manual* (SPIM) to measure progress toward the Agency's cleanup objectives. Currently, an effort is underway between EPA, DOD and DOE to identify a common set of measures that all three agencies will use to define progress.

Sub-objective 3.2.3 Maximize Potentially Responsible Party Participation at Superfund Sites

A) Current Conditions:

Region 8's FY02 accomplishments are indicative of a vigorous enforcement program resulting in potentially responsible party (PRP) lead work at 80 percent of the new Remedial Action (RA) starts. Region 8 was second in the nation in value of response settlements for work and cash-outs in bringing in $94.3 million. All unrecovered past costs greater than $200,000 were addressed before the Statute of Limitations for cases in FY02. Cost recovery settlements totaled $6.7 million.

B) Regional Trends/Challenges:

Region 8 faces two significant challenges to maximizing PRP participation. First, a large percent of sites are the result of historical mining in mineral rich mountain ranges. Historic ownership and operational records are difficult to obtain and require specific expertise to untangle what, in many cases, amounts to 100 years and more of mining activity at a particular site. Once identified, many of these historic entities no longer exist, are in bankruptcy or have been subsumed

by others. The latter presents a circumstance where a great deal of information and research are needed to establish successorship and, in some cases, to develop veil piercing arguments in order to establish liability. Second, Region 8 is fortunate that its six states have active cleanup programs and handle many sites without EPA involvement. However, the sites the states typically refer to EPA for action are those which are particularly complex and do not have responsible parties who are willing to step forward to cleanup the site. These sites require significant investment of resources to identify PRPs and to take enforcement actions since the parties are not willing participants. Frequently, these sites also involve bankrupt parties.

C) Regional Strategies/Approaches/Tools:

Region 8 will strive to conserve the Superfund Trust resources by pursuing "enforcement first" whenever liable, viable parties exist at a site. Aggressive PRP searches are the foundation of our strategy. Regional staff and appropriate contract mechanisms are in place to ensure thorough searches. Close coordination during the PA/SI (preliminary assessment/site inspection) phase of a site will enable the early identification of parties. Region 8 will seek to leverage PRP resources to conduct work whenever possible through consent agreements or equitable issuance of unilateral administrative orders. Cost recovery will be vigorously pursued and all cases with costs greater than $200,000 will be addressed before the Statute of Limitations using the full array of settlement tools available including ability to pay, cash-outs and de minimis settlements. Region 8 will continue to maximize the use of special accounts to fund future work. Wherever possible, oversight billing proceeds will also be deposited in site-specific special accounts. These special account funds will be used to decrease site-specific fund expenditures.

D) Primary Measures of Progress:

Early identification of PRP's will enable the Region to take appropriate enforcement actions prior to or at the start of RA at 90 percent of sites with non-federal liable, viable parties. Enforcement actions will include administrative orders on consent, unilateral administrative orders, consent agreements, consent decrees, voluntary cost recovery or civil judicial litigation. Efforts to address cost recovery at all sites with total past costs greater than $200,000 will include, but are not limited to, past cost settlements, ability-to-pay settlements, cash-outs, de minimis settlements, orphan share compensation settlements and litigation. (Refer to SPIM definitions of accomplishments). Whenever possible, the Region will establish site-specific special accounts to ensure past costs recovered are available for use at those sites for future work.

Objective 3.3: Enhance Science and Research

Sub-objective 3.3.1: Provide Science to Preserve and Remediate Land

A) Current Conditions:

Regional conditions are described in detail under Objective 3.1 and 3.2.

B) Regional Trends/Challenges:

EPA Region 8 is pursuing a number of activities to enhance our ability to make informed

decisions about protecting human health and the environment. Many of these activities are related to environmental issues and conditions that are particularly relevant in Region 8.

Due to the large number of sites in Region 8 that are contaminated with wastes resulting from historic mining activities, we have undertaken special studies to better characterize the bio-availability of lead, arsenic and other minerals associated with the Region's mining legacy. Because of the unique concerns related to the Libby, Montana site, considerable efforts are underway to develop risk and analytical tools related to asbestos. Vapor intrusion from the soil and from underground contaminant plumes into commercial properties and residences has recently come to the fore of public and Agency concern, and Region 8 is actively involved in both site-specific concerns and national guidance development. As more of our Superfund NPL sites mature and move into the post-construction phase, we are faced with the challenge of managing the legacy of contamination through long term institutional controls.

C) Regional Strategies/Approaches/Tools:

EPA Region 8 is formulating a scientific technical support structure to support the expanding emphasis on homeland security and emergency preparedness.

Region 8 is the national leader in implementing *in vitro* and *in vivo* studies to assess the bio-availability of various contaminants. These studies help us understand how rapidly a mineral contaminant (typically lead) moves from the gut into the blood and other organs. We will continue to refine this approach and coordinate with national efforts.

Region 8 toxicologists have taken an active role nationally in developing guidance for the use of probabilistic risk modeling and have developed models for regional sites. These efforts will help us better quantify the risks and uncertainty from exposure to numerous contaminants. Region 8 will work with the Tribal Science Council in their efforts to develop options for new risk models that are based on culturally appropriate research to better understand the needs of tribal communities.

Regional toxicologists play a key role nationally in working with the Office of Research and Development (ORD) and the Office of Solid Waste and Emergency Response (OSWER) to develop soil screening levels (SSLs) for ubiquitous toxicants and species. The resulting products speed the development and improve the quality of ecological risk assessments at contaminated sites in throughout the country.

Region 8 scientists are national leaders in developing sampling and analytical tools for dealing with asbestos contaminated vermiculite generated at the Libby, Montana, mine and processing works. New information gleaned from this work is critical for national asbestos policy development.

Region 8 scientists have taken part in the development of new national vapor intrusion guidance and in providing training for states across the country. This effort will improve the quality of

science at the state and federal level in this emerging area of concern.

Region 8 scientists have developed new information systems for integrating environmental data and GIS technology for sites with Institutional Controls (ICs). These systems will enable better monitoring of the efficacy of the ICs. The role of ICs is a central matter of discussion nationally with regard to Ready for Reuse determinations. This work is important as the Agency shifts its focus to returning land and water resources to reuse under the Revitalization Initiative.

Region 8 scientists are national leaders in promoting the use of STORET (the STOrage and RETrieval system) to provide a permanent archive for all environmental data collected during the Superfund assessment and clean up process. The data managed in the STORET archive structure is made available to site managers via a user friendly interface incorporating GIS/IMS. technologies. This novel approach will improve the efficiency and effectiveness of conducing five-year reviews. The Intranet Data Management System (IMS) and Land Use Institutional Control (LUCI) is a City and County of Denver pilot project GIS database of cleanup properties that EPA hopes to use to facilitate its Ready for Reuse determinations. Our goal is to eventually link the IMS and LUCI database to the STORET database. Together, this work supports the Agency's focus to returning land and water resources to reuse under the Revitalization Initiative.

D) Primary Measures of Progress:

Regional science and applied research support the Superfund national policy goals as captured and reported through the Government Performance and Results Act.